

## REMARKS

Applicants request favorable reconsideration of the subject application in view of the foregoing amendments and the following remarks.

Claims 11-14, 16-22, and 25 are pending in the present application, with claims 11, 14, 16, 19, and 21 being the independent claims. Claims 15, 23, and 24 have been cancelled without prejudice to or disclaimer of the subject matter previously recited therein. Claim 25 is newly presented. Claims 11, 14-16, 19, and 21 have been amended herein.

Support for the amendments to the claims may be found in the specification as originally filed, for example, on page 13, lines 25-26. Support for newly-presented claim can be found in the specification as originally filed, for example on pages 17 and 18. Accordingly, no new matter has been added.

Claims 11-24 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 2003/0144377 A1 (*Sano et al.*).

Independent claim 11, as amended, recites a polymer-containing composition comprising a block polymer compound, water or an aqueous solvent, and a functional material, wherein the block polymer compound comprises block segments A, B, and C arranged in succession, the block segment B is a hydrophilic block segment, the block segment C is most hydrophilic while the block segment A is most hydrophobic, the block segment C has an ionic group or an acidic group, and the block segment C is a repeating unit represented by a general formula (1). The other independent claims include analogous features.

In the previous amendment filed November 19, 2007, Applicants explained the remarkable effects achieved with the claimed invention. Applicants wish to reiterate those comments, and hereby incorporate those comments by reference.

In response to the rejections set forth in the Office Action, Applicants respectfully submit that, while the *Sano et al.* publication recites in claim 7 thereof a block copolymer in which two blocks A and B are both hydrophobic and in which a third block C “can be freely chosen,” the actual specification of the *Sano et al.* publication does not disclose any ABC block copolymer in which a block A is hydrophobic. Rather, as can be seen in the description in paragraphs [0016] to [0024], the *Sano et al.* publication discloses that the block A is hydrophilic. Moreover, Applicants would like to direct the Examiner’s attention to the online filewrapper of U.S. Application No. 10/092,003, which is *Sano et al.*’s application and the basis of the *Sano et al.* publication. As can be seen in the “Claims” documents dated May 21, 2002, April 11, 2002, and March 6, 2002, claim 7 of U.S. Application No. 10/092,003 recites that “block A is hydrophilic” (emphasis added).

In view of the above, Applicants submit that the phrase “block A is hydrophobic” in claim 7 of the *Sano et al.* publication appears to be a clerical error in the printed U.S. publication, for “block A is hydrophilic,” as clearly recited in the actual claims presented by *Sano et al.* (emphases added). Because the text of the U.S. Publication, on which the Examiner relies is wrong, Applicants submit that the *Sano et al.* publication cannot teach or suggest the subject matter relied upon by the Examiner. That is, the *Sano et al.* publication does not teach or suggest at least that, in an ABC block polymer, “the block segment C is most hydrophilic while the block segment A is most hydrophobic,” as required by the claims of the present application.

In the Office Action, the Examiner notes that claims of a disclosure are part of a specification. The Examiner concludes that there is no basis to state that claim 7 of *Sano et al.* is an error.

Applicants respectfully submit that the Examiner has misunderstood Applicants' argument. The actual claims presented by the Applicants in the *Sano et al.* application as originally filed (as evidenced in the file wrapper for Application No. 10/092,003) recite "block A is hydrophilic." This is consistent with the rest of the *Sano et al.* application, which described block A as hydrophilic, as Applicants note above. It was only a USPTO error in preparing the application for publication that resulted in the publication's mistaken recitation that "block A is hydrophobic" - the *Sano et al.* applicants never disclosed such a feature. This error by the USPTO cannot constitute "enabling prior art" anticipating Applicants' invention, given that there is no actual teaching in the entirety of the original disclosure of the *Sano et al.* application about block A being hydrophobic. *See In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA) (noting that without more, the mere naming of a compound in a reference cannot constitute a description of the compound).

Applicants further submit the *Sano et al.* publication discloses that the dispersants in the examples thereof were prepared according to the procedure disclosed in Japanese Patent Application Laid-Open No. H11-269418 (paragraph [0166]). However, all of the dispersants prepared by the procedure disclosed in Japanese Patent Application Laid-Open No. H11-269418 are AB-type di-block polymers, not ABC-type triblock polymers. This further supports Applicants' assertion that the *Sano et al.* publication does not teach or suggest the presently claimed invention.

Moreover, according to the *Sano et al.* publication, the block B in the disclosed block copolymer is always hydrophobic (paragraph [0075]). Where a block segment B is hydrophobic, when a block polymer forms a micelle with a functional substance such as pigments in water or an aqueous solvent, the block segment B is adsorbed on the functional substance, and so the hydrophilic portion of the micelle does not become a long portion. As a result, the level of good dispersion that can be obtained with the presently claimed invention cannot be achieved by following the disclosure of the *Sano et al.* publication. As well, interaction of the hydrophilic portion is hardly caused between the micelles, and viscosity is not increased, so the level of good fixing ability that can be obtained with the presently claimed invention cannot be achieved by following the disclosure of the *Sano et al.* publication.

Applicants further respectfully submit that *Sano et al.* discloses an amino group as the block segment B of the ABC triblock polymer. However, it is apparent that this amino group is a hydrophobic segment in *Sano et al.*'s specification. Therefore, *Sano et al.* does not disclose or suggest this amino group as a hydrophilic segment.

The ABC triblock polymer described in the present invention is clearly structurally distinguishable from the polymer disclosed by *Sano et al.*, and such distinction brings forth the remarkable features of Applicants' invention, as previously noted. In contrast to *Sano et al.*, the block segment B of the ABC triblock polymer used in the present invention and recited in the claims is always hydrophilic regardless of stimulus such as pH change. Therefore, the ABC triblock polymer disclosed by *Sano et al.* does not correspond to the ABC triblock polymer recited in the instant claims. Even if the Examiner's allegations were correct (which is not conceded by the Applicants), in terms that the segment B of *Sano et al.* changes to a hydrophilic

segment in response to a change in pH, the ABC triblock polymer recited in the instant claims, which describe the block segments B and C as hydrophilic, forms a micelle with a higher hydrophilicity compared to the ABC triblock polymer of *Sano et al.*, for the case where the segment B is a hydrophobic segment that can change to a hydrophilic segment in response to a change in pH.

As a result, in the present invention, electrostatic repulsion and steric hindrance are likely to be produced between the micelles, thereby achieving better dispersion. When a composition containing such polymer as the one recited in the present invention spreads over a recording medium and the amount of water or the aqueous solvent present around the micelle decreases, interaction of the hydrophilic portion is caused between the micelles, thus producing better ability to fix to a recording medium.

In view of the above, Applicants submit that the independent claims patentably distinguish the present invention over the *Sano et al.* publication. Reconsideration and withdrawal of the §103 rejection of the claims are therefore requested.

The dependent claims are also submitted to be patentable, due to their dependency from the independent base claims, as well as due to additional features that are recited. Favorable reconsideration is respectfully requested.

Applicants' undersigned attorney may be reached in Washington, D.C. by telephone at (202) 530-1010. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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